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ANALYSIS

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LOGIC, EXISTENCE, AND THE THEORY OF DESCRIPTIONS

By ARTHUR PAP

THAT no contingent truths are formally deducible from logical truths, would seem to be a theorem of meta-logic as firmly established as any. To be sure, it has been noticed by various logicians that if any statement asserting existence, even such an abstract one as " something exists ", is counted as a " contingent " statement, then all is not well with our theorem after all. The rules of specification (" f_y is deducible from " (x) f_x") and of existential generalization ("(Ex)f_x " is deducible from " f_y ") inevitably lead to the consequence that the existence assertion " (Ex) (fx v$\sim$fx)", for example, is deducible from a logical truth ; but that the existence of individuals should be logically demonstrable seems paradoxical. The above meta-theorem can, indeed, be maintained if, following Quine, we define a logical truth as a true statement containing only logical constants or a statement derivable from such a statement by substitution of descriptive constants for the variables. But this salvation of our meta-theorem by no means ends the logician's intellectual discomforts. For Quine's definition of " logical truth " makes it difficult to hold that all logical truths are necessarily necessary truths. Thus it follows from the definition that if the axiom of infinity, which is required for the logistic reduction of arithmetic, is true, then it is a logical truth since it is expressible in terms of logical constants alone—but it surely seems that if the axiom is true then it is contingently so.[1]

The puzzle I am going to discuss in this paper, however, is more serious than the puzzle of the deducibility of " something exists " from logic, and has to my knowledge been given less, if any, attention by logicians. It seems, superficially at least, that if you admit the rule of specification as a rule of deduction (and we surely need it in order to establish logical contact between universal and singular statements), then you can prove *on the sole basis of the law of identity*, (x) (x=x), the existence of the author of Waverley, of the President of the United States, and indeed of any individual denoted by some definite description! If definite descriptions are substitutable for individual

[1] That, for the reason given, the definition of a logical truth as a truth which can be expressed in terms of logical constants alone is inadequate, was clearly realized already by J. A. Chadwick: cf. " Logical Constants ", *Mind* 1927, p. 11. Moreover Quine's definition presupposes that we have a clear criterion of distinction between logical and non-logical constants, which is doubtful (on the latter point, cf. the author's articles " Logic and the Concept of Entailment ", *Journal of Philosophy*, June 22nd, 1950, and " Logic and the Synthetic A Priori ", *Philosophy and Phenomenological Research*, June 1950).

variables, as they are normally supposed to be, then " $(\imath x)fx = (\imath x)fx$ " is deducible from the law of identity. By Russell's analysis of descriptions, however, such an identity-statement is equivalent to " $E!\,(\imath x)\,fx$ ". Thus we seem to be left with the paradox that not only factual truths (like " the President of the U.S. exists ") are deducible from a logically true premise (the law of identity), but even factual falsehoods are deducible from a logically true premise : " the king of Switzerland is identical with the king of Switzerland " is a perfectly good substitution-instance of the law of identity, but by Russell's analysis of definite descriptions this is equivalent to asserting the existence of the king of Switzerland!

Let us now address ourselves to what may look like " obvious " solutions of the difficulty. The following solutions might be proposed :

(1) Only logically proper names, not definite descriptions, are substitutable for individual variables
(2) Definite descriptions are substitutable for individual variables only if they denote
(3) Restriction of the theory of descriptions to statements of the form " $g\,((\imath x)\,fx)$ " which are *not logically* true
(4) If the existence condition, mentioned in (2), is not fulfilled, then the identity-statement containing such an empty description is meaningless, not false.

The first solution seems to be the one implicit in PM. For we have there on the one hand the primitive proposition *9.2, in words " what holds in all cases, holds in any one case," and theorem 13.15 asserting the reflexivity of identity; and on the other hand the following passage in the section on descriptions :

" We have to prove that such symbols as " $(\imath x)\,(\phi x)$ " obey the same rules with regard to identity as symbols which directly represent objects (logically proper names?). To this, however, there is one partial exception, for instead of having $(\imath x)\,\phi x = (\imath x)\,\phi x$, we only have
*14.28 $\vdash : E!\,(\imath x)\,\phi x \,.\equiv.\, (\imath x)\,\phi x = (\imath x)\,\phi x$, i.e. " $(\imath x)\,(\phi x)$ " only satisfies the reflexive property of identity if $(\imath x)\,(\phi x)$ exists."

Clearly, if descriptions were substitutable for the variable " y " as it occurs in *9.2, then " $(\imath x)\,(\phi x) = (\imath x)\,(\phi x)$ " *would* be deducible from the law of the reflexivity of identity with the help of *9.2 : if what is true of all is true of any, then, since all individuals are self-identical, it follows that $(\imath x)\,\phi x$ is self-identical. But if this is not a correct interpretation of PM, it would be excusable since PM notoriously suffers from formal inaccuracies such as the failure to distinguish clearly between object-language and meta-language (primitive propositions on the one hand, formation- and transformation-rules on the other

hand). Let us, then, examine the merits of this solution of our paradox regardless of whether or not it corresponds to the intentions of Russell and Whitehead.

It actually involves at least four difficulties: (i) We surely want a system of logic to be strong enough so that within it we can prove the incompatibility of two such statements as "all communists are intellectually confused" and "the so-and-so, who is a communist, is not intellectually confused". These statements have the forms, respectively,

$$(x)\,(fx \supset gx) \quad \text{and} \quad f\,((\iota x)\,hx)\,.\sim g\,((\iota x)\,hx),$$

and in order to show that they are incompatible we have to show that the contradictory of the conjunction, viz.

$$f\,((\iota x)hx) \supset g\,((\iota x)\,hx),$$

is deducible from the universal implication; and this calls for the usual formulation of the rule of specification, permitting substitution of definite descriptions for individual variables. (ii) Whether natural languages contain "logically proper names" in Russell's sense of a proper name which merely denotes and is devoid of intension, such as to be incapable of abbreviating a definite description, is highly doubtful. The only name which certainly satisfies Russell's requirement is "this"; even "here" and "now" connote spatiality and temporality respectively ("here" can be correctly applied only to a place, just as "John" can be correctly applied only to a male; thus ordinary language recognizes at least partial intensional criteria for correct applications of these singular terms). It follows that a system of logic containing a rule of specification formulated in terms of the concept of a logically proper name would be inapplicable to singular statements as we find them in natural languages. (iii) Suppose it were maintained that for a name to be "logically proper", and thus substitutable for individual variables, it is sufficient that it be not understood, by the language user, merely as an abbreviation for a definite description (the way "Shakespeare", e.g., is understood as a synonym for "the author of such and such dramas"), but that the language-user be acquainted with the object denoted; that the name could be logically proper even though it has some intension bestowed upon it by ordinary usage, the way "John" is, according to ordinary usage, applicable only to males, not to females. In that case the rule of specification becomes, indeed, somewhat more relevant to argument conducted in a natural language, but we are left with precisely the same paradox. The rule of specification, thus formulated, permits an acquaintance of John's to deduce from the law of identity "John = John" (though not "Napoleon = Napoleon"!). But since it is analytic to say

that John is a man (if this sentence were false the name " John " would be misused), we can deduce from this substitution-instance of the law of identity, and thus from the law of identity itself, the empirical statement " there are men ". Needless to say, no half-way plausible definition of " logical truth " could accommodate such a *specific* existence-assertion within the confines of logic! (iv) The proposed reformulation of the rule of specification would break down even if natural languages contained logically proper names in Russell's extreme sense. For, as Quine has pointed out, all proper names can be replaced with descriptions, by the simple device: $a=(\imath x)\ (x=a)$; and by the substitutivity of identity, if " fa " is deducible from " (x) fx ", so is " $f\ [(\imath x)\ (x=a)]$ ". It is true that this device is not easily applicable to proper names in natural languages, since, as a glance at an American telephone book proves, " *the* x such that x is identical with Smith " is almost like " *the* x such that x is identical with a drop in the Ocean ". But that the identity holds if " a " is a logically proper name is, of course, logically true. And nobody, I trust, will now recommend the ad hoc solution that we prohibit the substitution upon individual variables of all descriptions except those of the form "$(\imath x)(x=a)$."

(2) The second solution of our paradox is not much more attractive. It disposes, indeed, of one half of the paradox, viz. that factually false statements are deducible from the law of identity. Thus it has the virtue of insuring the rule of specification at least against the formidable charge that it does not even live up to the requirement that a rule of deduction must enable only the deduction of *true* statements from true premises. But, in the first place, it still leaves the rule of specification unprotected against the charge that it leads from tautologous premises to factual conclusions. Secondly, it disposes of a paradox only by introducing another, though perhaps milder one: the rule of specification now ceases to be a *formal* rule of deduction, for in order to determine whether a given singular statement is in fact deducible as a substitution-instance from a universal premise, a look at the forms of the statements will not do: one will first have to find the answer to the *empirical* question whether the descriptions occurring in the singular statements denote.[1]

In this connection it might be pointed out that a solution of the logic-existence puzzle proposed by Carnap long ago, in the *Logical Syntax of Language*, is unsatisfactory for a similar reason. Carnap proposed (op. cit., §38a) that the principle of specification

[1] This amounts to saying that it depends on empirical facts whether one sentence is a logical consequence of another! Distinguish, though, this wholly unacceptable paradox from the superficial paradox involved in the adoption of a formation-rule according to which it depends on empirical facts whether a given sequence of symbols is a sentence. It will be argued in the sequel that the latter is not a serious paradox at all.

be transferred from the object-language to the meta-language of the logical system; in other words, the *dictum de omni* "what is true of all is true of any", should be formulated as a rule of substitution and not as a primitive sentence (axiom). "In the language thus altered, when an object-name such as 'a' is given, 'P(a)' can be derived from '(x) (P(x))'; and again, '(Ex)(P(x))' from 'P (a)'. The important point is that the existential sentence can only be derived from the universal one when a proper name is available; that is to say, only when the domain is really non-empty". Obviously, "proper name" here has the sense of "logically proper name", such that "there are proper names" entails "the range of the individual variables is non-empty". Now, if it could be maintained that "(Ex)Px" (where "P" is a predicate determining the universal class, such as "$P_1 \vee \sim P_1$", or self-identity) is deducible only from the conjunction of two premises, the one a tautologous universal sentence in the object-language, the other the empirical existential sentence of the meta-language "there are proper names", then the theorem that no contingent conclusions are deducible from logical truths alone would be saved. But, of course, the premises from which a given conclusion is deduced must all belong to the same language. It still remains the case, then, that a contingent consequence is deducible from a logical truth. The only way out is to exclude the rule of substitution of proper names upon individual variables from the group of rules of deduction which collectively define "logical consequence", so as to be able to deny that the contingent statement is a *logical* consequence of a logical truth. Indeed, one might defend this stipulation by pointing out that this rule of deduction differs from the formal rules in the important respect that its use requires empirical justification: one must first show that the individual variables have a non-empty range! But thus we purify our logic of "ontological" ingredients at the expense of making it inapplicable to arguments involving a mixture of general and singular sentences.

(3) One might restrict the theory of descriptions to statements involving descriptions which are *not logically true*. Specifically, one might hold that a tautological identity of the form "$(\imath x)\, fx = (\imath x)\, fx$" is to be analysed differently from a factual identity of the form "$(\imath x)\, fx = (\imath x)\, gx$", as a purely conditional statement without existential import:

$((\imath x)\, fx = (\imath x)\, fx) \equiv \{(Ex)\, [fx . (y)\, (fy \equiv y = x)] \supset (Ex)\, [fx . (y)\, (fy \equiv y = x)]\}$ (cf. Lewis and Langford, Symbolic Logic, p. 324).

This would amount to renouncing the ambition of giving a perfectly *general* analysis of sentences of the form g, $(\imath x)\, fx)$, i.e. an analysis applicable to all possible instances of this statement-

form. Various restrictions would be imposed upon the values of " g ", such as : g must not be identical with f nor with a conjunctive component of f (such sentences as " the king of Martians is a man " are presumably just as tautological, non-existential, as " the king of Martians is the king of Martians "). But likewise a value like " f v g " would presumably have to be excluded, and I suspect that the only way one could make sure of not having overlooked any needed restrictions would be by laying down the general restriction : " g " must not take on any value which turns the statement-form into a tautology. Such a rule, however, is likely to be ineffective since whether or not one interprets a given statement as a tautology depends, after all, on one's analysis of its constituent terms ; thus, if one accepted Russell's *general* analysis of descriptive phrases one would simply not admit that " the king of Martians is a man, " e.g., is a tautology.

But a more serious objection to this proposal is that it is an ad hoc amendation necessitating further ad hoc amendations of our logical system, which uneconomic aspect contrasts it unfavourably with the simpler solution (4) to be discussed presently. Specifically it entails that the rule of existential generalisation, permitting deduction of the existential statement '(Ex) fx ' from a singular statement of the form ' fx ' is applicable for some values of ' x ' and ' f ' but not for all. If for ' x ' a description is substituted which involves the same predicate as the predicate substituted for ' f ' or a predicate logically entailing the latter, then the rule would be inapplicable. Now, the whole idea of rules of deduction whose applicability depends upon what values are substituted for the variables in the statement-forms of the object-language, is repugnant to the idea of *formal* logic. For what is meant by saying that the rules of logic are formal rules is precisely that they refer only to the *forms* of the premises to which they are to be applied.

I turn now to the last possible solution. It will be seen that if it is thoroughly explored it leads to a far-reaching revision of the theory of descriptions, and of those parts of logic that depend on it, in terms of the distinction between *truth-conditions* and *significance-conditions*.

According to Russell's theory of descriptions, the existence of a unique descriptum is a *truth*-condition of any elementary statement involving a definite description as grammatical subject, in the sense that it is entailed by the truth of the statement ; by contraposition, if no unique descriptum exists, the statement is *false*. This is the reason why, on the theory of descriptions, one cannot infer from the law of the excluded middle that either " S is P " or " S is non-P " is true if S is a

definite description. But, strictly speaking, the claim that the statements " the present king of France is bald " and " the present king of France is not bald " are *both false* is perfectly analogous to the claim that both an affirmative and a negative answer to the question " have you stopped beating your wife? " would be false if the person to whom the question is addressed never even began to beat his wife. Suppose the latter claim were defended by saying that, after all, " I have stopped beating my wife " entails, by its very meaning, " there is a time at which I did beat my wife ", and that, more obviously still, " I have not stopped beating my wife " entails the same consequence; and that therefore both statements are false if this consequence is false, and thus are, grammatical appearances notwithstanding, not really contradictories. I propose to show that this line of reasoning leads to such an unsuspectedly extensive restriction of the law of the excluded middle that at least advocates of two-valued logic ought to abandon it.

Suppose I were asked " is your mind blue? " Now here again, one might argue that either answer, affirmative or negative, would be false. " x is blue " obviously entails " x has color'; but " x is not blue " entails " x has color " in just the same sense in which "I have not stopped beating my wife" entails "there is a time at which I did beat my wife ". Since my mind has no colour, the apparent contradictories " my mind is blue " and " my mind is not blue " are both false and thus not really contradictories. But then " (x) ($blue_x$ or not-$blue_x$) " is not derivable by substitution from the law of the excluded middle: there are values of "x", such as my mind, which satisfy neither function. Similar arguments could easily be constructed for any predicate: in the case of " round ", " x has shape " would be the fatal truth-condition, in the case of " irrational number " it would be " x is a number ", in the case of " loud " it would be " x is a sound ", etc. At this point, any competent student of Russell's logic will no doubt protest, and rightly so, that the elementary distinction between values failing to *satisfy* a function (turning the function into a false proposition) and values falling outside the *significance-range* of a function, has been overlooked. The expression " my mind " is not significantly substitutable for " x " in the context " x is blue ", hence neither " my mind is blue " nor " my mind is not blue " express *propositions* at all (where by " proposition " here is meant whatever falls within the significance-range of the predicates " true " and " false "); and the law of the excluded middle, of course, applies to propositions only. In order to derive a substitution instance from " (p) (p or not-p) ", I must substitute a propositional expression (sentence expressing a proposition) for the variable " p ", and

neither " my mind is blue " nor " my mind is not blue " are propositional expressions.

The distinction between truth-condition and significance-condition is, indeed, the very heart of the theory of types. Where "A" represents the class of all classes which are not members of themselves, the apparent contradictories "A is a member of itself" and "A is not a member of itself" fail to be significant, or to be propositional expressions, according to the theory of types. If the condition " if the type of x is n, then the type of y is $n+1$ " were regarded as a *truth*-condition of sentences of the form " $x \epsilon y$ ", the paradox which called for the theory of types would by no means be eliminated: substituting "A" for both " x " and " y ", we could deduce from " $A \epsilon A$ " on the basis of this truth-condition that the type of "A" differs from itself, which is a contradiction and thus false; therefore the hypothesis " $A \epsilon A$ " which entailed the contradiction, is false. But the falsehood of " not-($A \epsilon A$) " would likewise be demonstrable, as follows: in general, " $x \epsilon \bar{y}$ " is equivalent to " not-($x \epsilon y$) ". By the stipulated truth-condition " $A \epsilon \bar{A}$ " (substituting "A" for " x " and " $\bar{A}$" for " y ") entails that the type of A is different from the type of its complement $\bar{A}$. This is likewise a contradiction, since the type of any class is identical with the sum of that class and its complement, and any subclass of a given class belongs, of course, to the same type as the given class. But since " $A \epsilon \bar{A}$" is equivalent to " $\sim(A \epsilon A)$", the latter statement is likewise a contradiction. Thus both " $A \epsilon A$ " and " not-($A \epsilon A$) " are false statements which, in a two-valued logic, is equivalent to saying that they are both true.

Russell was clearly aware of the fact that what was just formulated as a truth-condition of class-membership assertions must be formulated as a significance-condition of such assertions if the antinomy is to be killed. It is, therefore, somewhat surprising that apparently he did not think of solving the logic-existence puzzle (which did bother him) by formulating the theory of descriptions as a stipulation of a significance-condition rather than of a truth-condition for statements involving descriptions. That a reformulation of the theory of descriptions as a " theory " of the same sort as the theory of types, viz. a stipulation of a significance-condition for a certain class of sentences, solves the logic-existence puzzle is easily demonstrated. In a logical system thus reformed, we cannot deduce from the object-linguistic identity " $(\iota x)\, fx = (\iota x)\, fx$ " the existential conclusion " $(Ex)\, fx$ ", and accordingly cannot deduce the *falsity* of the identity-statement from the falsity of the existential statement. The existential conclusion is deducible

only in the meta-language, from the meta-linguistic premise: " $(\iota x)\, fx = (\iota x)\, fx$ " is significant!

It is best to face right away a weighty objection to the proposed reform. Our condition of sentential significance is such that whether or not a sentence satisfies it depends on empirical facts.[1] In this respect our significance-rule appears anomalous. That a sentence like " my mind is blue " is insignificant follows from the fact that the expression " my mind " does not stand for a surface, and if this fact be an empirical fact, it is at least a *semantic* fact, of the same order as, say, the fact that " blue " stands for a colour and not for a shape. But the sort of facts which would have to be ascertained before it could be decided whether a given sentence involving a description qualifies as significant are such non-linguistic facts as that there is no king of France at present. Is it not paradoxical to say that whether a sentence uttered by X is significant depends on whether a certain belief held by X about extra-linguistic states of affairs is true or false? On the proposed ruling a token of the sentence " the London zoo contains two lions " spoken at a time when there is no zoo in London is meaningless, and another token of the same sentence spoken at a time when there is a zoo in London, is meaningful. This seems paradoxical.

Perhaps so. In the first place, however, it should be noted that if the *form* of a sentence is, as customary, identified in terms of logical constants (e.g. " $x \epsilon y$ " is a sentence-form), it would hardly be possible to construct an ideal language in which the difference between sentences and non-sentences is determined by purely syntactic rules. With regard to the above class-membership scheme, e.g., one might, indeed, devise special class-names for each type (say, a's for classes of first type, b's for classes of second type, etc.) such that an expression like " $a_1 \epsilon a_2$ " would not even have the form of a sentence. But the two English sentences " this table is round " and " this table is jealous " would both be instances of the form " $x \epsilon a_1$ " (where " x " is a thing-variable) and yet one is significant and the other not. The second sentence does not exhibit its meaninglessness the way an ill-formed formula does, but its meaninglessness can only be inferred from the *fact* that " jealous " does not designate a possible property of tables (this is a contingent fact of usage, of course, since " jealous " might have been used to mean roundness, e.g.). One might reply that if we do not mind a large variety of types of variables, we could still construct an ideal language such that there is no well-formed sentence (or simply, sentence) of it into which " this table is jealous " could be translated. We could introduce a special class of variables, say

[1] This difficulty is mentioned by Carnap, in *Meaning and Necessity*, § 7, p. 34.

$0_1, 0_2 \ldots 0_n$, ranging over conscious organisms, and lay down the formation-rule that " jealous " can occur predicatively only in expressions of the form " $0_1 \epsilon$ jealous ". But thus the factual judgment upon which recognition of an expression as a well-formed sentence is based is merely shifted, not eliminated : we now require the premise that " this table " is not substitutable for an 0-variable, which is equivalent to the semantic generalisation that it is never properly applied to conscious organisms.

Secondly, if it still be felt as a paradox that the significance of a sentence should depend on *non-linguistic* facts, then the best we can do is to mitigate the paradox by showing that the alternative convention (laying down a truth-condition instead of a significance-condition) is even more paradoxical. If it is paradoxical to hold that the meaningfulness of the sentence " I have stopped beating my wife " depends on the empirical, entirely non-longuistic, fact that I did beat my wife at some time, it is even more paradoxical to hold that in case I was never guilty of such misdemeanour both sentences " I have stopped beating my wife " and " I have not stopped beating my wife " are false and thus not contradictory. As a matter of fact, the paradox involved in the alternative convention can be exhibited with particular force by considering singular sentences with proper names as subjects. " How," so it may be asked, " does your reform-proposal solve the logic-existence puzzle anyway, considering that the latter can be formulated independently of the theory of descriptions? By substituting the proper name 'a' for 'x' in the law of identity we can still derive the singular sentence '$a=a$' which entails the contingent existential statement '$(Ex)(x=a)$' ". In meeting this criticism, let us disregard the problem, touched upon above, of the applicability of the concept of " logically proper name " to natural languages. The point to be established is that by an argument perfectly analogous to the argument which led to the reformulation of the theory of descriptions as a significance-rule, observance of the distinction between truth-conditions and significance-conditions necessitates a significant restriction of the rule of existential generalisation. If ordinary usage justifies the logician's claim that " John is tall " entails the existence of John ($(Ex)(x=\text{John})$), then ordinary usage likewise justifies the claim that " John is not tall " entails the same existential statement. But then, generally speaking, 'fa' and '$\sim$fa' could not be considered as contradictories since they have a common contingent consequence.[1] Indeed, if 'a' is a logically proper name (which it is

[1] The thesis that singular sentences have no proper contradictories was actually argued by Langford, in *Mind*, 1927 : "On Propositions belonging to Logic." More recently, E. J. Nelson ("Contradiction and the Presupposition of Existence", *Mind*, October 1946) argued that in order to escape from Langford's disquieting conclusion we have to make a

ex hypothesi), then one cannot consistently hold that " (Ex) (x=a) " is a *truth*-condition for " fa ".[1] This may be demonstrated as follows. To say that ' a ' is a logically proper name is to say that ' a ' is meaningless unless a exists. This, however, is to say that " ~(Ex) (x=a) " entails " ' a ' is meaningless " and therefore entails " ' fa ' is meaningless ". But thus the existence of *a* is not entailed by the object-linguistic premise " fa " but by the meta-linguistic premise " ' fa ' is meaningful ". Thus we come to the result that if we wish to be consistent with our characterization of the individual constants of the object-language as " logically proper " names, we have to lay down that " (Ex) (x=a) " is a significance-condition, not a truth-condition, for " fa ". And since " x=a " is a possible value of " fx ", we cannot maintain the rule of existential generalization in the general form " for *any* value of ' f ', ' fy ' (where ' y ' is an undetermined individual constant) entails ' (Ex)fx ' ".

The puzzle that ' a=a ' seems to be logically true inasmuch as it follows from a logical truth (the law of identity), and yet also seems to be contingently true in that its truth presupposes the truth of an existential statement ((Ex) (x=a)), is now easily solved. It is not the falsehood, but the meaninglessness of the identity-statement, which would follow from the falsehood of that existential statement. In the same way the old argument of Langford (already mentioned in the footnote above) against Wittgenstein's and Russell's logical atomism is disposed of. Langford argued that an atomic statement, like ' fa ', has no proper contradictory at all, since both ' fa ' and '~fa ' entail '(Ex)(fx v ~fx)', and thus would both be false in case the universal class were empty. If the criticism were valid, then not only the older form of the thesis of logical atomism but also Carnap's recent explication of L-truth in terms of the concept of " state-description " would be destroyed ; for " state-description " is defined in terms of " contradictory of an atomic sentence ", and

distinction between " conditions necessary for the existence of a proposition " and " conditions necessary for the truth of a proposition ". Thus the existence of *a*, Nelson argued, is presupposed by the very existence of the proposition " fa " ; it is not *asserted* by the proposition. It may well be that what Nelson intended to express in his ontological language is equivalent to the semantic thesis, here advocated, that the existence of *a* is a significance-condition, not a truth-condition, for the sentence " fa " (where " *a* ", of course, is meant as a logically proper name.)

[1] Since the notion of existence is represented, in the symbolism of mathematical logic, by a quantifier and not by a predicate, the sentence " a exists " can only be transcribed into " (Ex) (x = α) " (and notice that by the assumption that ' a ' is a logically proper name, this is equivalent to " (Ex)[(y) ((y = a) ≡ (y = x))]) ". Now, according to Russell, a singular existence assertion is meaningless if its subject is a logically proper name ; in order to be meaningful, such an assertion must have the form " the so-and-so exists ", i.e. its subject must be a description. If we accept this view—and I think there are good reasons for doing so—, then, of course, the thesis that the existence of a is a significance-condition for " fa " becomes itself meaningless unless ' a ' is replaced, in the context " the existence of a ", by a description denoting a. This, fortunately, can easily be done by taking the description " the individual which ' fa ' is about."

thus the defined concept " L-true " would even be inapplicable to language-systems having the structure of the lower functional calculus, not to mention natural languages. However, we have already seen that the law of the excluded middle stands unshaken even though truth is predicable neither of " my mind is blue " nor of " my mind is not blue " ; the fact that " my mind " does not denote an admissible value of " x " in the context " x is blue " makes both sentences insignificant, not false. In general, two sentences S_1 and S_2 are proper contradictories if, *provided they are both significant*, one must be true and one false. If this proviso were not incorporated into the definition of " contradictory ", the defined concept could not have *any* application : for with regard to any two sentences it is logically possible that they fail to be significant (or to express propositions), in which case it would be meaningless to predicate truth or falsehood of them.[1] Now, if the universal class were empty, then both sentences ' fa ' and '∼fa ' would fail to be significant ; but one or the other would have to be true if the significance-condition is satisfied.

The entire controversy about the contradictories of atomic sentences presupposes, of course, that the individual constants of *Principia* are interpreted as *logically proper* names. But what if they are abbreviations for descriptions? It seems that our thesis is entangled in the following contradiction : according to what was said previously, " (Ex) fx " is a significance-condition for " g ((ɿx)fx) ".[2] But a description may have a sense (or designate an " individual concept ", in Carnap's terminology) even if it fails to denote. Hence the singular sentence whose subject is a non-denoting description could be significant. This contradiction, however, depends on the tacit premise that the significance of the non-logical constants occurring in a sentence is not only a necessary but likewise a *sufficient* condition for the significance of the sentence as a whole. The fact that such

[1] Notice that it is inaccurate to characterize a meaningless sentence as " not true and not false ", since " not true " in ordinary usage means " false " and " not false " means " true ", such that this characterization implies that " there are meaningless sentences " is self-contradictory.

[2] To be quite accurate, the existence of a unique descriptum is, according to the theory of descriptions, a truth-condition only for those values of the propositional function " g ((ɿx) fx) " which are elementary (non-compound) propositions. An essential part of Russell's theory of descriptions is the distinction between *primary* and *secondary* occurrences of descriptions. Descriptions have a primary occurrence in elementary propositions, such as " the king of France is bald ", but may have a secondary occurrence in molecular propositions such as negations, in the sense that such propositions might be true even though no unique descriptum exists : thus Russell recognizes that " the king of France is not bald " could be so interpreted that it is true even though there is no king of France, viz. — $\sim[(Ec)(f_x \equiv_x x = c) . gc]$. For Russell, however, any statement involving descriptive phrases, whether elementary or molecular, is *either true or false*, no matter whether the descriptive phrases have a primary or secondary occurrence, hence the latter distinction in no way invalidates my basic criticism of the theory of descriptions, viz. that it involves a confusion of *truth*-conditions and *significance*-conditions.

sentences as " my mind is blue " are insignificant seems to be a clear refutation of this premise. It might be replied that if the sentences in question are not " sentences " relatively to the imperfect syntactic rules of a natural language but qualify as sentences in an ideal language, where, by definition of " ideal language ", there could be no meaningless sentences, then the above condition of sentential significance is sufficient after all. Unlike " my mind is blue " or " virtue is square ", any expression which is an instance of the form " g $((\iota x)fx)$ " qualifies as a sentence in the ideal language of *Principia* provided the descriptive predicates substituted for the predicate-variables are meaningful. Quite so. But the whole point of the preceding discussion was that a plausible solution of the logic-existence puzzle implicit in the system of PM requires a revision of the formation-rules to this effect: that, where " sentence " means " expression to which the rules of deduction are applicable ", an instance of the above form is a sentence only if the existence-condition is fulfilled.[1]

It should be noted, in conclusion, that a significance-rule (or formation-rule) such as the one here proposed is not to be justified or condemned in terms of vague intuitions as to what sentences (of a natural language) are meaningful and what are not. The only rational justification it would seem to be susceptible of is one in terms of the ideal of *consistency*. Specifically, it has been shown that by stipulating it the logical system of PM can be made to conform to the theorem that only logical truths are deducible from logical truths and that no other stipulation is an equally satisfactory means to that end. The only rational justification which such a significance-rule par excellence as the theory of types is susceptible of is similarly pragmatic : by forbidding as ill-formed formulae certain expressions which qualify as sentences in natural languages, consistency with the law of non-contradiction is enforced. The decision to lay down a certain significance-rule is, however, equally inspired by the desire for consistency of the reconstructed language with the law of the excluded middle. This may be shown in terms of a couple of simple illustrations. Should we say that " x is even " and " x is odd " (where " x " is an unrestricted variable and the predicates have the familiar arithmetic meanings) *entail analytically* " x is a natural number " (truth-condition), or instead that the significance-range of these functions is restricted to

[1] The suggested revision of formation-rules is actually an extension to a logical system containing descriptive constants as substituends for individual variables of a convention adopted by Hilbert and Bernays for logical systems whose individual variables (variables of lowest type in the system) range over numbers. In their system an instance of the above form qualifies as a *formula* only if the existence-and uniqueness-conditions are (demonstrably) fulfilled.

natural numbers (significance-rule)? On the former alternative, " the square root of two is odd " and " the square root of two is even (i.e. not odd) " would both express propositions ; and since the procedure of operating with unrestricted variables, implicit in this alternative, makes it natural to declare " the square root of two is a natural number " as a *false* proposition, it follows that both of these contradictory propositions are *false*. This is a violation of the law of the excluded middle which calls for restriction of the significance-range of " x is even " (which is, of course, identical with the significance range of the contradictory, " x is odd ") to natural numbers. " The square root of two is not a natural number ", then, does not entail " the square root of two is not odd nor even " but "the square root of two is not an admissible value of ' x ' in the context ' x is odd ' ". Similarly, suppose that, using ' x ' as an unrestricted variable, one asserted " x is meaningful " as a common truth-condition for the contradictories " x is true " and " x is false " ; it would then follow that meaningless sentences are neither true nor not true. If, on the other hand, a suitably restricted variable ' p ' is employed in the context " . . . . is true ", then " ' quadruplicity drinks procrastination ' expresses no proposition " entails " ' quadruplicity . . . . ' cannot be substituted for ' p ' ", and the law of excluded middle : (p) (p is true or p is not true),[1] is saved.

Such, then, is the kind of argument, based on the desire to construct a language in conformity to the law of excluded middle, which leads to the stipulation of significance-ranges or, which amounts to the same, the introduction of typically restricted variables. It should be noted, however, that it presupposes a decision concerning contradictories, of the form : the functions " $F_1(x)$ " and " $F_2(x)$ " are contradictories. It is only relatively to such a decision that it becomes a decidable question to ask : what significance-range of these functions (or what restriction of the variable ' x ' in this context) will insure conformity with the law of excluded middle? If the argument is to escape circularity, this decision concerning contradictories must be made independently of the law of excluded middle, i.e. we should not argue : " $F_1(x)$ " and " $F_2(x)$ " must not be considered as contradictories, for if they were, the law of excluded middle would break down.

For the particular case where " $F_1(x)$ " and " $F_2(x)$ " have the forms : $g((\iota x)fx)$ and $\sim g((\iota x)fx$ (where the predicate 'g' is the scope of the negation-sign), we come to the following

[1] " p is true " is here meant in the sense of " it is true that p " where " p " is a propositional, not sentential, variable, i.e. its substituends are statements, not names of statements.

result. It would be circular to argue that these functions are, grammatical appearances notwithstanding, not contradictories, on the ground that if they were the law of excluded middle would break down. For in order to establish the premise we would first have to make the decision, implicit in Russell's theory of descriptions, that descriptions which do not satisfy the existence—and uniqueness—conditions are significantly substitutable for the argument-variable, such that satisfaction of these conditions is a *truth*-condition. It is only on the basis of this stipulation that one can argue that both sentences " the king of France is bald " and " the king of France is not bald " are *false* if no king of France exists and that accordingly the law of excluded middle would be violated if these sentences were construed as contradictories. But as my examples of the irrational number and the meaningless sentence were intended to show, significance-ranges are arrived at in the context of solving this kind of a problem: given that these functions are contradictories, how must their significance-ranges be determined in order to save the law of excluded middle? For example, given that " odd " and " even " are contradictories, how must the range of ' x ', in the contexts " x is odd " and " x is even ", be restricted in order that we can assert " (x) (ιx is odd or even) "?

Thus Russell's argument " ' the present king of France is bald ' and ' the present king of France is not bald ' are not contradictories, for if they were, then, by the theory of descriptions, the law of excluded middle would be violated " could plausibly be countered by the argument: " Both of these sentences must be regarded as meaningless, and your theory of descriptions, according to which they are both false, must accordingly be rejected; for, *since their predicates are evidently contradictories*, the law of excluded middle would be violated unless the argument-variable of the function " g (ιx) fx " were restricted to uniquely denoting descriptions ".

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KNOWLEDGE AND BELIEF

By J. H. Scobell Armstrong

In a recent discussion[1] of how and when we can discover by reflection whether we know something or merely believe it, Norman Malcolm puts forward a view of knowledge which might be summarised as follows:

(1) There are two uses of the word ' know,' a " weak " use

and a " strong " use. Knowing in the weak sense applies to instances in which the statement that we know something is open to risks and it could turn out that we were mistaken. In this sense, it is quite legitimate to say " I know the gorge won't be dry ", provided that I am sufficiently confident and my reasons are conclusive enough to warrant the assertion. (" I saw a lot of water flowing in the gorge this morning," etc.). The fact that it may turn out that there is no water, even when the speaker had the very best grounds for saying " I know the gorge won't be dry," does not discredit this use of the word ' know '. But it shows that, at any rate in the weak sense of ' know ', we cannot discover by self-examination whether we know something or not. For the material upon which we reflect—our reasons and confidence—are exactly the same, (*a*) when there turns out to be water in the gorge, (*b*) when there is none. No amount of scrutiny will distinguish knowledge of the weak sort from certain belief; for it is an unquestionable fact that if there turned out to be no water in the gorge we, and other people, would say that we " didn't really know ". " He knew this but was wrong " is inadmissible.

(2) There are, in addition to certain mathematical propositions, some empirical statements asserting that we know something in which " I know that p is true " implies that the speaker would accept nothing as evidence that p is false. These are instances of knowing in the strong sense. If " I know " is attached to such statements as " The sun is about 90 million miles from the earth; " " There is a heart in my body; " it is not used in this sense : we can at least envisage circumstances that might cause us to recant. The strong use of ' know ' is exemplified by " I know that there is an ink-bottle here ". Malcolm denies that any subsequent débâcle—unaccountable disappearances, the testimony of friends that there is no ink-bottle, blank photographs, etc.—would count as a disproof of his statement. It could not turn out to be false because no imaginable set of occurrences could unseat it. In this strong sense of ' know', and only in this sense, can we discover by reflection whether we know something or not. We have only to decide whether or not we should disallow every imaginable disproof that might be offered.

There are two implications of Malcolm's view which seem to me to be false, and to depend at least indirectly on an unsatisfactory view of the relation of knowledge to belief :

(i) that we cannot detect whether we know something except when our knowledge is of the incorrigible kind, which he calls knowing in the strong sense;

[1] *Knowledge and Belief*. MIND, April 1952, pp. 178–9.

(ii) that there is a kind of empirical statement which is incorrigible, and which would provide an exception supposing we were to admit the impossibility of discovering whether we know things in the weak sense. If we find good reason to reject (ii), this will clearly tend to make (i) less plausible, for the conclusion that we can *never* detect whether we know something or not is a less moderate one, more strikingly out of line with common supposition. I will therefore discuss (ii) first.

One possible view of the difference between knowledge and belief could be summarised thus: knowledge is indefinable but contains two elements which belief does not—infallibility and directness. Whatever could possibly turn out to be mistaken cannot be knowledge. Belief is an inferior substitute which can be false even at its most rational. This view derives its plausibility from the fact that it is nonsense to say "He knew this but he was wrong" but perfectly good sense to speak of a false but absolutely certain belief. There is an obvious and close resemblance between such a view of knowledge in general and knowing in the strong sense as described by Malcolm. But this notion that knowledge can be a special achievement which eliminates all risk of error is open to serious objections.

(1) We frequently say that we know all sorts of things which are exposed to risks—that the boat leaves to-morrow or that there is a two pound trout under the bridge. If this view of knowledge is correct, it must be concerned with something other than what is commonly meant by knowing. It is this difficulty which leads Malcolm to allow for knowing in the weak sense.

(2) It follows from this view by arguments too familiar to need enumerating that our most commonplace assumptions about the external world provide us at the best, not with knowledge (or knowledge in the strong sense), but with some inferior substitute, highly probable hypotheses, or knowledge in the weak sense. What we can most plausibly be said to know is a set of so-called basic propositions about areas of colour etc. —"pink patch now" and so forth. If, as Malcolm does, we discard the terminology of sense-data, we may arrive at slightly more generous basic propositions about ink-pots.

But, on examination, even these so-called basic propositions do not justify the claim made for them that they are incorrigible. Any descriptive word classifies, and involves memory and recognition. It has been pointed out that this curious view that basic sentences are incorrigible may be due to reckless use of the direct object after the verb 'know', e.g. "What must I do to an experience in order that I may know it?" etc.—as if experiences carried labels and were not liable to the ordinary

corrigible process of identification. But in fact we are just as likely to hesitate, waver, and recant over these propositions as over any other. Any judgement involves an attachment of past to present, which is open to risks. " Is this patch violet or on second thoughts is it purple, or perhaps even mauve? "

Malcolm's propositions about ink-bottles, which are made possible by a firm rejection of sense-data terminology, are apparently more ambitious equivalents of the simpler basic propositions about colours and sounds. It seems to me, however, that propositions about such things as ink-bottles are in no more privileged a position than the basic propositions about coloured patches. Although " Here is an ink-bottle " probably does not imply " It won't vanish ", other hesitations about ink-bottles can easily be imagined. One's son might come in and say " I've left a container from my chemistry set on your desk," or one's wife might ask quite casually " How does that come to be out of the medicine-cupboard? " Would one not in fact look again? And if for some reason a whole range of closely similar receptacles came into domestic use, " Here is an ink-bottle " might represent quite a tricky feat of identification. Perhaps this invites the retort " That is not the kind of doubt that was meant ". But then the alleged incorrigibility of this kind of proposition only applies by definition : for " safe from disproof" comes to mean " safe from just those kinds of disproof which are inadmissible." There is an obvious parallel here, with the self-evidence sometimes ascribed to such a proposition as " Nothing can at the same time be red and blue all over," where each of the numerous perfectly good ways of being red and blue all over that one might suggest is rejected as being beside the point; it then turns out that the proposition is self-evident in just that sense in which ' red ' and ' blue ' are designed to be mutually exclusive. If " incorrigible " knowledge, knowledge in the strong sense, is unavailable even in the most auspicious instance, this notion of unqualified conviction can be of no value in enabling us to distinguish between knowledge and belief, and we should look for some other differentia. This ought to take into account both the absurdity of false knowledge and the fact that we say we know all manner of things which are exposed to risks.

Let us suppose that knowing in the senses under discussion is like ' being prepared to give one's authority for presuming something '. Such a notion finds *prima facie* support in the special advantages we claim when answering the question, " How do you know? " (" How do you know there is a two pound trout under the bridge? " " I began fly-fishing when I was seven." " I saw it rise," etc.) Knowing might be compared

with such a ' performatory ' word as promising. Up to a point " I know " works like " I promise ". It differs from " I am certain " as " I promise " does from " I absolutely intend ". It ought not to be qualified by " I may be wrong " as " I promise " ought not to be qualified by " I may not ". But although " I know " works like " I promise " in the first person present, there is not complete similarity. Although we say we know all kinds of risky things, we would not say that we or anyone else knew something but were wrong. It is otherwise with promising. " He promised that this would be done but it wasn't " is quite admissible.

Austin, in his discussion[1] of knowing and believing, sets out instances in which someone acts as though he had the authority to do something and it transpires that he had not, using as examples warning, ordering, and guaranteeing. " He warned me but (because I knew already) he didn't really warn me," etc. Promising and knowing, however, differ in certain respects both from these words and from one another. A proper promise turns on someone's being prepared to give his authority for presuming something. Failure to fulfill it will not lead us to say that a proper promise was not made. (Naturally, however, one cannot promise and imply non-fulfillment). Proper warning, ordering, etc. depend upon someone's being in a position to pronounce authoratively. Thus, if the appropriate circumstances are lacking, even if the speaker does not know it, this may lead us to say that no " real " warning or order was given. Warnings and orders can be sincere but invalid. Except in the first person present, knowing works more like warning, ordering, etc., than like promising. " Since he had lost his commission, he didn't really order me." " Since this turned out to be false, he didn't really know."

In the first person present, on the other hand, knowing seems to work more like promising. The ambiguity in words like ' warn ', ' order ', ' curse ', ' appoint ', etc., depends upon the possibility of a second best, a mere " going through the motions " which some circumstance nullifies. ' Know ' and ' promise ', however, are intended, when seriously used, to commit the speaker as thoroughly as possible. It is therefore less easy to use them with the implication that they may be untrustworthy : their purpose is to be the most bona fide words of their kind and to cut out the right to hedge. Thus, whilst " I warn you of this, but perhaps you know already " is admissible, " I promise to do this, but I may not " is objectionable, and " I know this, but I may be wrong " even more so. This does

[1] *Proc. Arist. Soc.*, 1946, Supp. vol. xx.

not, of course, imply that any spoken word cannot be tacitly cancelled by a tone of the voice or a glint of the eye.

Again, although knowing works like warning, etc. in forms other than the first person present, it does not work in the same way for quite the same reason. " He ordered me, but since he had lost his commission, he didn't really ' order ' me " depends upon two senses of ' order ', a valid and an invalid sense. It is clear that the usage " Since this turned out to be false, he didn't really know " cannot depend upon a similar double sense, since it is incorrect to say " He knew this, but since it turned out to be false, he didn't really know." The absurdity of false knowledge depends upon the fact that knowing implies a claim to success. The reason why " He knew this, but was wrong " is absurd becomes clear if we consider such an expression as " I can vouch for," which splits up the performatory element and the claim to success by adding the auxiliary ' can '. " He vouches for this, but he is wrong " is correct. " He *can* vouch for this, but he is wrong " is objectionable. Success cannot be ascribed to people in precisely the direction in which they have failed. This serves to explain why Malcolm's proposition " I know that there is an ink-bottle here " has a limited currency in common speech. We do not generally use " I know " in such a context except in special circumstances. " I know there is an ink-bottle here but my eye-sight is failing." If, under normal conditions, a friend suddenly drew our attention to an ink bottle and said " I know there is an ink-bottle here," we would probably find ourselves bewildered and unable to attach a meaning to the expression. If someone were to say from the next room " I know there is an ink-bottle here " we would probably assume that there was good reason why the ink-bottle must be somewhere in the room but that he couldn't find it, and might feel justifiably annoyed if we found that he was in fact staring thoughtfully at the ink-bottle itself. We do not vouch for the obvious or claim to be successful at making wholly evident statements. Bee-keepers guarantee that their honey is pure but not that it is sweet.

If such an explanation of our use of the word ' know ' is correct, we can continue unabashed to say that we know all those things which we in fact generally consider that we know. The wrongness of maintaining that we knew something after it has proved untrue is not in the least incompatible with our saying that we know moderately risky things. Let us, then, return to the example of the man who said with the utmost certainty and the best reasons " I know the gorge won't be dry ", but was wrong. If his use of the words " I know " is not discredited by the bare possibility of error, why should he not

be justified in saying " I am certain that I know "? If knowledge differed from firm belief only by reason of better grounds and greater confidence, the possibility of identical reasons and confidence, whether he was right or wrong, might present a problem. But I have tried to show that the difference between knowledge and firm belief is not of this kind. There is nothing in the scale of certainty superior to an absolutely certain belief. " I know " and " I believe " indicate not so much different things we can do as different positions we may adopt. Of course we sometimes find difficulty in deciding whether we know something or not, but under favourable circumstances we find no difficulty at all. It is surely no harder in principle to discover by reflection whether we know something or not than to tell whether we are merely convinced that we are on the right road or are prepared to dissuade the driver from consulting the map; whether we are merely sure that the prisoner will appear for trial or are willing to go bail for him. We are well justified in thinking both that we know things and can be certain that we know them, and should continue to do so with a good courage.

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REMARKS ABOUT EXPERIENCE

By Justus Hartnack

IT is an interesting thing about the word ' experience ' that it has two rather distinct uses, an ordinary and a philosophic use. In ordinary language we talk about an experienced doctor or we say such things as that the teacher has some teaching experience. In philosophical discourse we may discuss whether our experiences are private or not ; we read statements about the content of our sense experience and hear that it is the business of the scientist to describe our experiences.

That the two uses are different follows from the fact that what makes sense in the one makes nonsense in the other and vice versa. It seems, for instance, to be accepted philosophic lingo to use the terms ' experience ' and ' perceptions ' (or, according to taste, ' sensations ', ' phenomena ', ' sense data ' etc.) interchangeably. It is obvious, however, that I could not use words like ' perception ' or ' sensation ' in statements about the teacher's experience or about the experienced doctor. If I say about a doctor that he is experienced I do not say anything about his perceptions or about the content of his sense experience ; I am saying that he has practised for many years, that he has had opportunities to study and treat a variety of

cases and that he consequently has accumulated a certain amount of know-how. Nor am I talking about the teacher's perceptions when I say that he has some teaching experience but I am stating that he has taught a number of years.

As a rule we do not find any difficulties in understanding what is meant by statements using 'experience' in the ordinary way and no philosophic puzzles seem to arise. It turns out however not to be easy to tell what is meant by the philosophic use of 'experience'. What is it the scientist is describing when he describes our experiences and what is it that is private when it is asserted that our experiences are private ?

If we ask a doctor to describe his experiences he will tell us about the different cases he has treated, about the hospitals he has served and that sort of thing. But what if a philosopher asks him to describe his experiences? If he starts to give the same story as before the philosopher is sure to stop him because that was not what he asked him to do ; it is another kind of report he wants.

It may be suggested that to describe my experiences is to describe the objects I see or hear or smell ; but this could not be the case because if it were, the things I could say about the former could also be said about the latter without absurdity and this condition is not fulfilled. The object I see I may describe as being red all over, having the size of an apple and being on the top of the table ; but I could not very well say that my experience has the size of an apple and is on the top of the table. So to speak about describing one's experiences is not the same as to speak about describing the objects one sees or hears.

It does not help if instead of speaking of describing our experiences we speak about the content of our experiences. It may, at first glance, appear to be correct because the content of my experience could not be anything but the objects I see and hear ; it is inferred from this that to describe one's experiences really means to describe the content of one's experiences which, then, is the same as to describe the objects one sees or hears. But this will not work either. I can say about the object I see that it fell down from the tree or that I put it in my pocket ; but I should feel very uneasy about saying that the content of my experience fell down from the tree or that I put the content of my experience in my pocket.

The interesting thing is, however, that if we ask a philosopher to describe his experiences he will proceed in exactly the same manner as if he were asked to describe what he sees, hears and smells. But this, of course, does not prove that the two expressions mean the same thing ; we have just seen that this is not the case. It just means that there is nothing else he could possibly

describe. We may be misled by the grammatical form of the expression 'describing our experiences' to believe that there should be something else to be described; we may erroneously take it to have the same logical form as such expressions as 'describing a painting' or 'describing a landscape'. That is, 'experience' is regarded as a word which can be the logical subject, as a word which refers to a special kind of stuff or occurrence. And because it is regarded as something over and above the objects experienced it is inappropriate to speak about it as if it had the qualities of an object, as for instance that it is red or blue, that it can fall down to the floor or that I can put it in my pocket. However, there is no occurrence and no event which we could label with the name 'experience' and which could be given different attributes. When we appear to speak about experience we are in a misleading way speaking about the things a person experiences or the fact that a person experiences something.

The philosopher who asserts that our experiences are private is, in other words, either talking nonsense, or is only asserting that the fact that he experiences something is a fact different from the fact that another person experiences either the same thing or another thing. Again, the philosopher who asserts or denies that there is a world beyond the world of experience is either talking nonsense or is just saying that there is (or is not) something which it is impossible for my eye to see and for any ear to hear.

It is not quite satisfactory, however, to say that to describe our experiences is to describe the objects I experience; it is not satisfactory because the phrase 'the object I experience' is somewhat misleading. Philosophers have discussed whether we see sense data or objects as if it had to be either one or the other. My contention is that neither is the case.

Only in very special situations do we say 'Green patch now' or 'I see green now'; and even though we may say 'I see a book' we only do so in such special cases as when I am asked to report what I see on the top of the table. In this situation my answer 'I see a book' is the assertion that I see that there is a book on the top of the table. That is, what I see is not the book but the fact that there is a book on the top of the table. In most cases we do not use the 'I see' form but the more assertive form 'There is'. To see something, then, is to have found out something, or, as we may fail in our effort, and attempt to do so; sometimes we find out only after careful examination and sometimes a glance is enough; and to describe what we see ('describe our experiences') is simply to say or to write down that which we have found out.

If this view is correct some consequences of philosophical interest follow. I shall mention three such consequences.

First, the not unusual view that what is true or false is not our experiences but the description of them seems not to hold. If my experience is a judgment, an assertion, it follows that an experience is either true or false.

Secondly, the once lively debated problem whether a statement could be compared with experience or not seems to vanish because if experience is something ascertained we do not engage in any kind of comparing but we express the ascertained in a statement.

It may be objected that if to experience is to find out something, is to assert something, then at least it is to find out by way of sensations and the only thing gained is that instead of speaking about comparing statements with experience we now speaking about comparing statements with sensations or comparing experience with sensations. But this objection does not hold; because it entails that sensations are something seen (observed or experienced) which means another process of finding out or of asserting; and this time we will have to ask, with some curiosity, to find out by help of what?

Finally, it is often discussed whether a sense datum language is necessary in order to account for perceptual situations or whether a language of appearing will do. As the sense datum language is thought to create unnecessary metaphysical puzzles the appearing language is preferred by many philosophers. Critics, however, are eager to point out that the appearing language, like the sense datum language, describes actual experiences and that these experiences, such as bent sticks and elliptical coins, are on the same ontological footing as sense data. But this seems not to be a valid criticism. For even if we say that the appearing language is describing actual experiences, it is a mistake, as we have seen, to take it to mean that the appearing language is describing certain entities called 'experiences' ('sense data'—'appearances'). If I say that there is a stick which appears bent even though it is straight it means that I have in fact found out that the stick is straight even though the present situation affords some evidence for the assertion that the stick is bent, evidence, however, which can be explained away. Or in other words, to describe experiences, appearances, sense data (or whatever we like) is not like describing paintings or motion pictures but is to express the things I have found out by using ears and eyes.

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